

**Long wav length VCSEL**

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Inventor(s): RAMDANI JAMAL (US); JIANG WENBIN (US); LEBBY MICHAEL S (US)  
Applicant(s):: MOTOROLA INC (US)  
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*Con net drive***Abstract**

A VCSEL for emitting long wavelength light including a GaAs (111) substrate element (12), a first mirror stack (14) with mirror pairs in a GaAs/AlGaAs material system lattice matched to a GaInAsN active region (20) with an active structure (23) sandwiched between a first cladding region (24) adjacent the first mirror stack (14) and a second cladding region (25), the active structure (23) including a nitride based quantum well (35, 36, & 37), and a second mirror stack (26) lattice matched to the second cladding region (25) and

having mirror pairs in a GaAs/AlGaAs material system.



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(71) Applicant: **MOTOROLA, INC.**  
**Schaumburg, IL 60196 (US)**

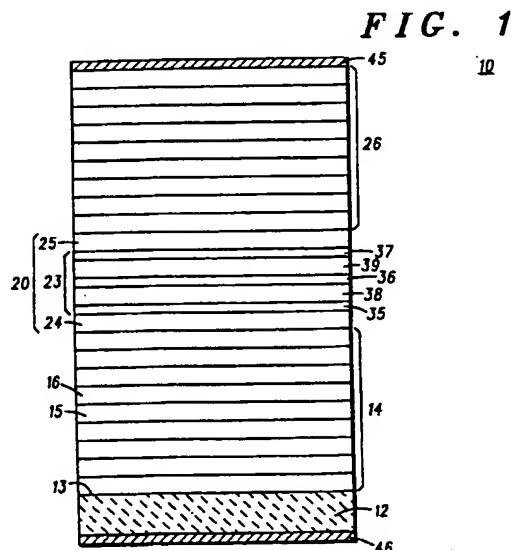
(72) Inventors:  
• **Ramdani, Jamal**  
**Gilbert, Arizona, 85233 (US)**

- **Lebby, Michael S.**  
**Apache Junction, Arizona 85219 (US)**
- **Jiang, Wenbin**  
**Phoenix, Arizona, 85044 (US)**

(74) Representative:  
Williamson, Simeon  
Motorola European Intellectual  
Property Operations  
Midpoint  
Alencon Link  
Basingstoke, Hampshire RG21 7PL (GB)

**(54) Long wavelength VCSEL**

(57) A VCSEL for emitting long wavelength light including a GaAs (111) substrate element (12), a first mirror stack (14) with mirror pairs in a GaAs/AlGaAs material system lattice matched to a GaInAsN active region (20) with an active structure (23) sandwiched between a first cladding region (24) adjacent the first mirror stack (14) and a second cladding region (25), the active structure (23) including a nitride based quantum well (35, 36, & 37), and a second mirror stack (26) lattice matched to the second cladding region (25) and having mirror pairs in a GaAs/AlGaAs material system.



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## EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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A	KONDOW M ET AL: "A NOVEL MATERIAL OF GAINAS FOR LONG-WAVELENGTH-RANGE LASER DIODES WITH EXCELLENT HIGH-TEMPERATURE PERFORMANCE" INTERNATIONAL CONFERENCE ON SOLID STATE DEVICES AND MATERIALS, 21 August 1995, pages 1016-1018, XP000544869 * the whole document *	1-9	TECHNICAL FIELDS SEARCHED (Int.Cl.6) H01S
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 August 1998	Examiner Claessen, L
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